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ABSTRACT

A study of graduate students in education and forestry explored their preferences and perceptions of cooperative learning strategies. The study examined strategies derived from the work of R. Slavin and D. Johnson including the following: think-pair-square, think-pair-share, jigsaw strategies, and cooperative group investigation. Of the 208 students participating in this study, 27 were in forestry and 181 in education. The students were all involved with all of the cooperative learning strategies at some points during their courses. Near the conclusion of the Spring 1992 term each of the classes completed the Cooperative Learning Survey and indicated whether they preferred either: (1) a balance of lecture/discussion and cooperative learning, (2) mostly lecture discussion, or (3) mostly cooperative learning activities. The findings indicated that students rated cooperative learning slightly more positively than alternative methods for sharing ideas, listening, critical thinking, positive relationships with colleagues, and opportunities to see ideas applied to professional situations. (JB)

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Students' Perceptions of Cooperative Learning Strategies in Post-Secondary Classrooms:

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Students' Perceptions of Cooperative Learning Strategies in Post-Secondary Classrooms:

In our current economic climate, characterized by funding cuts and restructured organizations, teachers in post-secondary institutions are being faced with new challenges. In universities, adult students enrolled in professional studies present faculties with unique instructional challenges. Many have backgrounds in the liberal arts, sciences, or humanities, and have had previous careers and work experiences. As students of education, nursing, social work, forestry, business administration, and engineering, they are adult learners who are acquiring sets of professional knowledge and skills to put into daily practice. Schon (1987) notes the importance of interaction among individuals involved for professional practice. He indicates that, as adult learners, students of professional studies need to be involved in learning situations where can they work with other professionals to make sense of professional situations. Today, such situations require client-centred approaches involving collaboration, discussion, and diverse problem solving strategies.

Collaborative learning strategies provide strong potential for the development of professional studies because they involve students in the construction of professional knowledge (Ney, 1991). There are different philosophies and many different strategies for collaborative learning. One of the philosophies currently being used in a variety of educational settings is cooperative learning. Presented in this paper are the findings from a study in which students in seven professional studies courses (five education and two forestry) were surveyed with regard to their preferences and perceptions of cooperative learning strategies as tools for professional education.

Review of Literature

The review of literature begins with an overview and some basic concepts for teaching adult learners. In the second section, cooperative learning is discussed. The review concludes with a brief discussion of the cooperative learning strategies used during the courses.

Teaching Adult Learners

Knowles (1974) was one of the earliest writers discussing the teaching of adults. He notes that adult learners tend to see themselves as self-directing in terms of their own learning. They often bring numerous life experiences to learning situations, attempting to

tie them to their learning in whatever ways are possible. As a result, instructional strategies focused on experiential and transformational learning are likely to be more effective than transmissional strategies in which knowledge is dispensed through lecture. Adult learners often have an enhanced readiness to learn and are often anxious to begin 'doing' things in relation to professional tasks. Often much of the 'doing' is stimulated and enhanced by the problem-centred approaches to learning taken by many adult learners. These characteristics make teaching adult learners an interesting challenge.

The foundation for Knowles' (1974) work and the work are based on the earlier philosophies of Dewey (1938) and theories of Bruner (1966) who each present some concepts which continue to be foundational in teaching adult learners. For Dewey, teaching through experiences and making learning relevant to life experiences was an important issue. He notes that "All genuine education comes about through experience" (p. 13). Dewey's main concerns for experiential learning is that it be relevant and that the experiences continuously build on each other. He was also concerned with the need for democracy in learning processes and experiences. By using their voices in interactions to create knowledge within their unique situations, Dewey believed that learning processes could help individuals come together for the creation of a more open and democratic society.

Bruner (1966) suggests the concept of inquiry as an additional key to effective learning experiences. In constructing a theory of instruction, particularly for adult learners, Bruner suggests that such a theory should predispose individuals toward learning, structure ideas so that they can be readily grasped by learners, arrange the most useful sequence and processes for idea development, and specify the incentives and sanctions of the processes. Inquiry processes are designed to increase intellectual development through the development of frameworks for sorting and sense-making of ideas.

Theories of inquiry involve learners in questioning and being questioned, and in intense interactions with each other and with teachers. From students' responses during interactions, teachers develop lessons. The lessons are as much concerned with the processes of student thinking and learning as they are with the products of the learning, such as answers to the questions. Teachers using inquiry mode teach inductively, beginning with a problem or dilemma, and basing the solution on a process to which students contribute extensively through responding to open-ended questions or problems related to professional practice. Inductive or inquiry teaching helps learners develop abilities to define and formulate problems, organize and process information related to problems, generate ideas for dealing with the problems, and evaluate the ideas related to the problems.

Waldron and Moore (1991) reiterate the views of Knowles (1974), Dewey (1938) and Bruner (1966). In applying adult learning principles, they note that learning processes are seen as changes in which "all learners accomplish their own learning in their own way, and at their own pace in response to their own interests, values, background and practice opportunities" (p. 59). Learning also requires motivation. Learners must see how the learning is of value to them. They also indicate that learning requires attention. Learning often takes place most satisfactorily in situations where new information can be linked with previous learning. Learning also requires practice and feedback to ensure learners that they are actually accomplishing something.

In summary, the work of Dewey (1938), Bruner (1966), Knowles (1974), and Waldron and Moore (1991) provide teachers of adult learners with a basis for their work which is learner centred, interactive, and draws upon learners' previous experiences. Cooperative learning strategies appear to be useful to assist students of professional studies in developing each of these characteristics . Cooperative learning is discussed in the next section.

History and Philosophy of Cooperative Learning

Johnson, Johnson and Holubec (1988) and Slavin (1990) have both studied and written extensively about the philosophy and concepts of cooperative learning. Johnson et al. note that the concepts of cooperative learning existed as early as the first century when they were written about in the Talmud under the concept of learning partners. During more recent times, teaching strategies which are used to create classroom atmospheres that are cooperative and democrati were discussed during the early 1900's by Dewey and during the 1940's by Deutch and Lewin.

Both Slavin (1990) and Johnson et al. (1988) suggested various strategies of cooperative learning based on similar philosophical tenets. These include, firstly, positive interdependence among students for the achievement of group goals. Students must perceive their interdependence positively before cooperative principles will function well. Secondly, cooperative interdependence involves face-to-face interactions among students. The interdependence and interaction are designed to maximize the learning experience for each individual Therefore, students are required to develop interpersonal and small group skills as part of becoming acquainted with cooperative learning. Thirdly, individual accountability,.meaning that each student is responsible to meet the learning requirements of the situation Fourthly, when evaluating the learning outcomes from cooperative strategies, teachers must consider the process as well as the product . To the initial four

tenets, Slavin adds the concepts of equal opportunity for success among participants, team competition rather than competition among individuals, task specialization, and adaptation to the needs of individual learners.

Strategies of Cooperative Learning

The strategies involved in the current study were derived from the work of Slavin (1990) and Johnson et al. (1988). Each is described as it was used by the two instructors whose students were part of this research.

Think-pair-square. During the 'think' phase, students are asked to think about an issue or idea individually, noting their ideas. They are then asked to 'pair' by joining with another student where both have an equal opportunity to share their ideas. 'Squaring' occurs when two pairs of students come together to discuss their ideas. This strategy may include reaching a consensus of ideas to share with the whole class.

Think-pair-share. Similar to the above strategy, think-pair-share is a useful strategy for discussion aimed at the clarification of new ideas or when reinforcement of existing ideas is needed. Think-pair-share involves the development of a dialectic in which the participants in each pair are carefully instructed to give each other equal 'air time' for discussion. The pairs may be asked to share with the whole class, but often, these pairs provide time for more private student interaction.

Jigsaw strategies. Jigsaw strategies are among the task specialization methods of cooperative learning. Jigsaw strategies involve the teacher in breaking the whole of what is to be learned into equal parts. The students in the class are assigned to two types of groups: specialist groups which are each assigned to learn one part of the what is to be learned and learning groups in which the whole of what is to be learned is brought by members of specialist groups to be taught to all members. When working in the specialist groups, members tasks are to ensure that each thoroughly understands their portion of the material and to devise a strategy or strategies to be used for teaching the material to peers in the learning groups. The complexity of what is to be learned will determine the amount of time necessary to each of the group processes. Sometimes entire courses are broken into modules to be learned in specialist groups and presented in learning groups. In the education courses, only parts of the courses were broken into modules to present using a jigsaw.

Cooperative group investigation. Group investigation is appropriate for integrated tasks which deal with the acquisition, analysis, and synthesis of information in order to learn about a multi-faceted issue or solve a multi-faceted problem (Slavin, 1990). This strategy is derived from Dewey's (1938) premise that cooperation in teaching situations is a

prerequisite for dealing with the complex problems of life in a democracy. To be implemented, cooperative group investigation requires an environment that supports small group dialogue. This means that group skills must be well developed among the students.

Cooperative group investigation involves teachers in assisting students to identify a broad area from which topics can be identified. Students then work together to identify a problem and then to gather information for exploring the problem. The group members plan, precisely, what they wish to study and how to begin. They then carry out the investigation through information gathering, analysis of data, and the development of conclusions. Each group then prepares and presents a final report in which each group member takes an equal part in the planning and presentation of the material. Groups are encouraged find novel and interesting methods for presentation which avoid excessive dependence on lecture. One of the most important aspects to the cooperative group investigation is the evaluation stage which begins with students sharing feedback on their work with the topic and their affective experiences. Students and teachers collaborate in evaluating student learning. The assessment of the learning should evaluate the higher-order thinking processes used in the investigation.

Teachers' roles in cooperative learning. Teachers involved with cooperative learning strategies play the role of facilitator and resource person. Cooperative learning strategies require teachers to do extensive initial planning and researching of what is to be learned. Once the cooperative process begins, teachers need to circulate among the groups listening to their deliberations and noting that students are able to manage their work. Teachers model the group and communication skills which they expect the students to use. Such skills include listening, paraphrasing, responding in a non-judgmental fashion, and encouraging equal participation among group members. As in all effective teaching scenarios, the teacher is the key to successful learning. At the outset and at key times during cooperative learning processes, teachers' voices are those which most urgently need to be heard.

Students Perceptions of Cooperative Learning

The participants in this study were 208 students in professional studies, 27 of whom were students in forestry, with the remaining 181 being students in education. Each of the groups were involved with all of the previously discussed strategies for cooperative learning at some points during their courses. The two courses in Forestry were totally developed using cooperative strategies. Near the conclusion of the spring term in 1992, each of the classes were surveyed using the Cooperative Learning Survey (Glass &

Putnam, 1989). The survey is comprised of fifteen statements about various aspects of cooperative learning, and an additional question in which students were asked to indicate whether they would prefer their classes to have: (1) a balance of lecture /discussion and cooperative learning, (2) mostly lecture/discussion, or (3) mostly cooperative learning activities; students were given the opportunity to comment on their choice as part of the last question. The findings from the survey are displayed in Table 1.

Table 1
Cooperative Learning Survey

	Cooperative Learning		Lecture/ Discussion	
	X	SD	X	SD
1. I often acquire valuable information through this approach.	3.4	.70	3.5	.70
2. I can learn about the instructor's thoughts and experiences through this approach.	2.8	1.04	3.5	.911
3. I often share information and ideas with other students through this approach.	3.72	.743	3.0	1.024
4. I often engage in critical thinking (Evaluating ideas and opinions, solving problems through this approach.	3.46	.580	3.16	.921
5. I often listen to the thoughts and opinions of my classmates through this approach.	3.64	.519	3.372	.820
6. I get a chance to see how ideas can be applied to teaching/professional situations through this approach.	3.37	.863	3.274	.905
7. I often practice skills of listening, sharing and giving encouragement to classmates through this approach.	3.53	.555	2.942	.766
8. I can review information, check on my level of understanding, and get help if necessary through this approach.	3.26	.668	3.01	.698
9. I look forward to these activities.	3.26	.846	3.19	1.01
10. I feel actively involved in these activities.	3.51	.565	2.91	.977
11. I get frustrated or impatient in these activities.	2.25	.947	2.93	.995
12. I get confused in these activities.	1.93	.837	1.90	.677
13. I feel intellectually challenged in these activities.	3.16	.895	3.02	.988
14. I feel closer to my classmates in these activities.	3.51	.786	2.90	1.01
15. Most of my classmates participate actively in these activities.	3.33	.749	2.84	.987

The findings in Table 1 indicate that students do tend to rate cooperative learning slightly more positively in areas such as sharing ideas, listening, critical thinking, positive relationships with colleagues, opportunities to see ideas applied to professional situations. These findings are similar to earlier claims about cooperative learning strategies made by Johnson and Johnson (1988) and Slavin (1990). These findings also provide positive

reinforcement for the use of cooperative learning strategies as ways in which adult learning principles (Knowles, 1974; Waldron & Moore, 1991; Ney, 1991; Schon, 1983) may be applied in a variety of situations for learning professional practices. However, additional interpretation is given to these findings through the last question on students' preferences. 84.13% of the participants indicated a preference for a balance between classes conducted using cooperative learning strategies and those developed around lecture/discussions.

A number of the students' comments from different classes add further clarification to the call for a balance among strategies. One individual noted "I feel a balance between the two is best to provide students with necessary information and teacher input as well as participation." A second student indicated that "I learned more from my peers and their opinions (whether or not I agreed with them) than from lectures and texts." Four other students attributed a balance as a motivational strategy for students, providing for differences in learning style. One of the four stated "I require a variety of approaches to keep my motivation and interest alive." A second person noted "The more learning styles experienced adds to the atmosphere in the classroom. More people find activities they enjoy when they are introduced to various teaching techniques." Commenting on the work of teachers, a third student mentioned that both types of activities "must be guided carefully. I found this class in particular to be highlighted by conflict and poor discussion skills among some students." A fourth student indicated that a balance between cooperative and lecture/discussion allows everyone a chance to excel.

Two students also indicated some concerns about extensive use of cooperative learning. One student stated "Cooperative activities take a lot of time. I think if everything was done this way the material would not get covered properly." The second noted that "If people are not prepared it wastes my time. I hate wasting time a lot." One other notes the value of cooperative activities for use in future careers. He stated "Cooperative Learning is a good way of learning and discussing what we will use in our future jobs in the field."

Of the remaining group, 10.58% of the participants preferred mostly cooperative learning strategies. The greatest majority of those preferring mostly cooperative strategies was found within one of the groups of teacher education students. Part of the rationale for their choice may have been due to the increasing emphasis placed on cooperative learning strategies in public school classrooms. Only .05% of the participants indicated that they preferred mostly lecture/discussion. These were scattered throughout the seven groups of participants. The only student who commented on this choice noted that "At times students just like to come to class and veg out."

The findings of this research provide supportive evidence for allotting at least some portions of instruction time to cooperative learning strategies. Cooperative learning

strategies match the adult learning principles of experiential and inquiry learning as well as developing interpersonal and communication skills by listening and discussing ideas among group members. Cooperative strategies also provide motivating, positive feelings to adult learners, and in addition, also appear to create more intellectually stimulating classrooms. We must be aware, however, that cooperative learning strategies do not provide a panacea for developing all instructional situations. Instead, cooperative strategies are most useful when balanced with other strategies, creating instructional situations in which teachers' and students' voices each take their parts in dialogues.

References

Bruner, J. (1966). Toward a theory of instruction. Cambridge: Harvard University Press.

Dewey, J. (1938). Education and experiences. New York: MacMillan.

Glass, R., & Putnam, J. (1989). Cooperative learning in teacher education: A case study. Action in teacher education. 10(4), 48 - 56.

Johnson, D., Johnson, R., & Holubec, E. (1988). Cooperation in the classroom. Edina, Minn: Interaction Book Company.

Knowles, M. (1974). The adult learner: A neglected species. Houston: Gulf Publishing Co.

Ney, J. (1991). Collaborative learning in university grammar courses. Innovative higher education. 15(2), 153 - 65.

Schon, D. (1987). Educating the reflective practitioner. San Francisco, CA: Jossey-Bass Publishers.

Slavin, R. (1990). Cooperative learning: Theory, research and practice. Englewood Cliffs, NJ: Prentice Hall.

Waldron, M., & Moore, G. (1991). Helping adults learn. Toronto: Thompson Educational Publishing, Inc.